

USCG Marine Safety Center
Inland Tank Barge
Bulk Liquid Cargo Authority/Conditions of Carriage

1. Vessel Information:

Vessel Name: CHEM 218

Shipyard: Jeffboat

Official #: D512873

Hull #: 2052

2. Bulk Liquid Cargo Authority:

46 CFR Subchapter D Authority:

HighestGrade A

Capacity 11,150.00 bbls

46 CFR Subchapter O Authority:

Part151 ☒

Part153 ☐

Part154 ☐

3. Bulk Liquid Cargo Conditions of Carriage:

Loading Constraints - Structural

Tank(s)	Tank Capacity (bbls)	Max Cargo Weight/Tank (Short Tons)	Max Density (lbs/gal)
1		990	13.3
2		1110	13.3

Loading Constraints - Stability

Hull Type(s)	Route(s)	Max Load (Short Tons)	Max Draft (ft/in)	Max Density (lbs/gal)
II	RIVERS; LAKES, BAYS & SOUNDS	1691	9' 4"	13.3
III	RIVERS; LAKES, BAYS & SOUNDS	1836	10' 0"	13.3

4. Tank Group Characteristics

Tank Group Information		Cargo Identification			Hull Type	Cargo Seg Tank	Tanks			Cargo Transfer		Environmental Control		Fire Protection Provided	Special Requirements		Elec Haz	Temp Cont
Tank Group	Tanks in Group	Density	Press.	Temp.			Type	Vent	Gauge	Pipe Class	Cont	Tanks	Handling Space		General	Materials of Construction		
A	2	13.3	Atmos.	Amb.	II	1ii 2ii	Integral Gravity	PV	Open	II	G-1	NR	NA	None	40-1(f)(1), .50- 70(a), .50- 70(b), .50-73, .50-81(a), .50- 81(b),	55-1(b), (c), (e), (f), (h), (i), (j), 56- 1(a), (b), (c), (d), (e), (f), (g),	NR	Yes

Notes:

1. Under Environmental Control, Tanks, NR means that the tank group is suitable only for those cargoes which require no environmental control in the cargo tanks.
 2. Under Environmental Control, Handling Space, NR means that the tank group is suitable only for those cargoes which require no environmental control in the cargo handling space. NA means that the vessel does not have a cargo control space, and this requirement is not applied.
 3. Under Electrical Hazard Class, NA means that the tank group is suitable only for those cargoes which have no electrical hazard class requirement. NR means that the vessel has no electrical equipment located in a hazardous location.
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Acetone	ACT	18 ²	D	C		A	No	N/A
Acetophenone	ACP	18	D	E		A	No	N/A
Acrylonitrile-Styrene copolymer dispersion in Polyether polyol	ALE	20	D	E		A	No	N/A
Alcohol(C12-C15) poly(1-6)ethoxylates	APU	20	D	E		A	No	N/A
Alcohol(C12-C15) poly(7-19)ethoxylates	APV	20	D	E		A	No	N/A
Alcohol(C12-C15) poly(20+)ethoxylates	APW	20	D	E		A	No	N/A
Alcoholic beverages, n.o.s	031	20	D	#		A	No	N/A
Alcohol(C6-C17)(secondary) poly(3-6)ethoxylates	AEA	20	D	E		A	No	N/A
Alcohol(C6-C17)(secondary) poly(7-12)ethoxylates	AEB	20	D	E		A	No	N/A
Alcohols (C13+)	ALY	20	D	E		A	No	N/A
iso- & cyclo-Alkanes (C10-C11)	AKI	31	D	#		A	No	N/A
iso- & cyclo-Alkanes (C12+)	235	31	D	#		A	No	N/A
n-Alkanes (C10+)	ALJ	31	D	D/E		A	No	N/A
Alkaryl polyether (C9-C20)	AKP	41	D	E		A	No	N/A
Alkenyl(C11+) amine	AKM	11	D	D/E		A	No	N/A
Alkenylsuccinic anhydride	AAH	11	D	E		A	No	N/A
Alkyl(C9+) benzenes	AKB	32	D	E		A	No	N/A
Alkylbenzenesulfonic acid (4% or less)	033	0 ^{1,2}	D	#		A	No	N/A
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture	AAA	34	D	E		A	No	N/A
Alkyl dithiothiadiazole (C6-C24)	ADT	33	D	D		A	No	N/A
Alkyl ester copolymer (C6-C18)	AES	34	D	E		A	No	N/A
Alkyl phenol sulfide (C8-C40)	AKS	34	D	E		A	No	N/A
Amyl acetate (all isomers)	AEC	34	D	D		A	No	N/A
Amyl alcohol (iso-, n-, sec-, primary)	AAI	20	D	D		A	No	N/A
Amyl alcohol (tert-)	036	20	D	#		A	No	N/A
Animal and Fish acid oils and distillates, n.o.s.	AFA	34	D	#		A	No	N/A

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Animal and Fish oils, n.o.s. (see also Oil, edible, or Oil, misc.)	AFN	34	D	#		A	No	N/A
Aromatic resin feedstock	ARS		D			A	No	N/A
Aryl polyolefin (C11-C50)	AYF	30	D	E		A	No	N/A
Asphalt	ASP	33	D	C/E		A	No	N/A
Asphalt blending stocks: Roofers flux	ARF	33	D	E		A	No	N/A
Asphalt blending stocks: Straight run residue	ASR	33	D	E		A	No	N/A
Barium long chain alkaryl sulfonate (C11-C50)	BCA	34	D	E		A	No	N/A
Barium long chain alkyl (C8-C14) phenate sulfide	BCH	34	D	E		A	No	N/A
Behenyl alcohol	038	20	D	E		A	No	N/A
Benzene tricarboxylic acid trioctyl ester	039	34	D	#		A	No	N/A
Benzyl alcohol	BAL	21	D	E		A	No	N/A
Brake fluid base mixtures (containing Poly(2-8)alkylene(C2-C3) glycols, Polyalkylene(C2-C10) glycol monoalkyl(C1-C3) ethers)	BFX	20	D	E		A	No	N/A
Butene oligomer	BOL	30	D	#		A	No	N/A
Butyl acetate (all isomers)	BAX	34	D	D		A	No	N/A
Butyl alcohol (iso-)	IAL	20 ²	D	D		A	No	N/A
Butyl alcohol (n-)	BAN		D	D		A	No	N/A
Butyl alcohol (sec-)	BAS		D	C		A	No	N/A
Butyl alcohol (tert-)	BAT		D	C		A	No	N/A
Butyl benzyl phthalate	BPH	34	D	E		A	No	N/A
Butylene glycol	BUG	20 ²	D	E		A	No	N/A
iso-Butyl formate	BFI	34	D	#		A	No	N/A
n-Butyl formate	BFN	34	D	#		A	No	N/A
Butyl heptyl ketone	BHK	18	D	E		A	No	N/A
n-Butyl propionate	BPN	34	D	D		A	No	N/A
Butyl stearate	001	34	D	{E}		A	No	N/A
Butyl toluene	BUE	32	D	D		A	No	N/A

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gamma-Butyrolactone	BLA	0 ^{1,2}	D	E		A	No	N/A
Calcium alkyl(C9)phenol sulfide, polyolefin phosphorosulfide mixture	CPX	34	D	E		A	No	N/A
Calcium long chain alkyl salicylate (C13+)	CAK	34	D	E		A	No	N/A
Calcium long chain alkaryl sulfonate (C11-C50)	CAY	34	D	E		A	No	N/A
Calcium long chain alkyl phenate (C8-C40)	CAN	34	D	E		A	No	N/A
Calcium long chain alkyl phenate sulfide (C8-C40)	CPI	34	D	E		A	No	N/A
Calcium long chain phenolic amine (C8-C40)	236	7	D	#		A	No	N/A
Caprolactam solutions	CLS	22	D	E		A	No	N/A
Cetyl-Stearyl alcohol	046	20	D	E		A	No	N/A
Coal tar	COR	33	D	D/E		A	No	N/A
Cyclohexane	CHX	31	D	C		A	No	N/A
Cyclohexanol	CHN	20	D	E		A	No	N/A
1,3-Cyclopentadiene dimer (molten)	CPD	30	D	D/E		A	No	N/A
p-Cymene	CMP	32	D	D		A	No	N/A
Decahydronaphthalene	DHN	33	D	D		A	No	N/A
iso-Decaldehyde	IDA	19	D	E		A	No	N/A
n-Decaldehyde	DAL	19	D	E		A	No	N/A
Decene	DCE	30	D	D		A	No	N/A
Decyl acetate	DYA	34	D	E		A	No	N/A
Decyl alcohol (all isomers)	DAX	20 ²	D	E		A	No	N/A
Decylbenzene (n-)	DBZ	32	D	E		A	No	N/A
Diacetone alcohol	DAA	20 ²	D	E		A	No	N/A
Dialkyl(C10-C14) benzenes	DAB	32	D	#		A	No	N/A
Dialkyl(C7-C13) phthalates	DAH	34	D	E		A	No	N/A
ortho-Dibutyl phthalate	DPA	34	D	E		A	No	N/A
Diethylbenzene	DEB	32	D	D		A	No	N/A
Diethylene glycol	DEG	40 ²	D	E		A	No	N/A

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Diethylene glycol dibutyl ether	DIG	40	D	{E}		A	No	N/A
Diethylene glycol diethyl ether	052	40	D	{E}		A	No	N/A
Diethylene glycol phenyl ether	DGP	40	D	E		A	No	N/A
Diethylene glycol phthalate	DGL	34	D	E		A	No	N/A
Di-(2-ethylhexyl)adipate	DEH	34	D	E		A	No	N/A
Diethyl phthalate	DPH	34	D	E		A	No	N/A
Diglycidyl ether of Bisphenol A	BDE	41	D	E		A	No	N/A
Diheptyl phthalate	DHP	34	D	E		A	No	N/A
Dihexyl phthalate	053	34	D	E		A	No	N/A
Diisobutylene	DBL	30	D	C		A	No	N/A
Diisobutyl ketone	DIK	18	D	D		A	No	N/A
Diisobutyl phthalate	DIT	34	D	{E}		A	No	N/A
Diisononyl adipate	DNY	34	D	E		A	No	N/A
Diisooctyl phthalate	DIO	34	D	E		A	No	N/A
Diisopropylbenzene (all isomers)	DIX	32	D	E		A	No	N/A
Diisopropyl naphthalene	DII	32	D	E		A	No	N/A
Dimethyl adipate	DLA	34	D	E		A	No	N/A
Dimethyl glutarate	DGT	34	D	E		A	No	N/A
Dimethyl phthalate	DTL	34	D	E		A	No	N/A
Dimethyl polysiloxane	DMP		D	E		A	No	N/A
2,2-Dimethylpropane-1,3-diol	DDI	20	D	E		A	No	N/A
Dimethyl succinate	DSE	34	D	E		A	No	N/A
Diocetyl phthalate	DOP	34	D	E		A	No	N/A
Dipentene	DPN	30	D	D		A	No	N/A
Diphenyl	DIL	32	D	D/E		A	No	N/A
Diphenyl, Diphenyl ether mixtures	DDO	33	D	E		A	No	N/A
Diphenyl ether	DPE	41	D	{E}		A	No	N/A

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Diphenyl ether, Biphenyl phenyl ether mixture	DOB	41	D	E		A	No	N/A
Dipropylene glycol	DPG	40	D	E		A	No	N/A
Dipropylene glycol dibenzoate	DGY	34	D	E		A	No	N/A
Distillates: Flashed feed stocks	DFF	33	D	E		A	No	N/A
Distillates: Straight run	DSR	33	D	E		A	No	N/A
Dodecane (all isomers)	DOC	31	D	E		A	No	N/A
Dodecanol	DDN	20	D	E		A	No	N/A
Dodecene (all isomers)	DOZ	30	D	D		A	No	N/A
Dodecylbenzene	DDB	32	D	E		A	No	N/A
Dodecyl phenol	DOL	21	D	E		A	No	N/A
Dodecyl xylene	DXY	32	D	E		A	No	N/A
Drilling mud (low toxicity) (if flammable or combustible)	DRM	33	D	#		A	No	N/A
2-Ethoxyethyl acetate	EEA	34	D	D		A	No	N/A
Ethoxy triglycol (crude)	ETG	40	D	E		A	No	N/A
Ethyl acetate	ETA	34	D	C		A	No	N/A
Ethyl acetoacetate	EAA	34	D	E		A	No	N/A
Ethyl alcohol	EAL	20 ²	D	C		A	No	N/A
Ethylamylketone	EAK	18	D	D		A	No	N/A
Ethylbenzene	ETB	32	D	C		A	No	N/A
Ethyl butanol	EBT	20	D	D		A	No	N/A
Ethyl butyrate	EBR	34	D	D		A	No	N/A
Ethylcyclohexane	ECY	31	D	D		A	No	N/A
Ethylene carbonate	003	34	D	E		A	No	N/A
Ethylene glycol	EGL	20 ²	D	E		A	No	N/A
Ethylene glycol acetate	EGO	34	D	E		A	No	N/A
Ethylene glycol butyl ether acetate	EMA	34	D	E		A	No	N/A
Ethylene glycol diacetate	EGY	34	D	E		A	No	N/A

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Ethylene glycol dibutyl ether	EGB	40	D	E		A	No	N/A
Ethylene glycol methyl butyl ether	EMB	40	D	#		A	No	N/A
Ethylene glycol methyl ether acetate	EGT	34	D	D		A	No	N/A
Ethylene glycol phenyl ether	EPE	40	D	E		A	No	N/A
Ethylene glycol phenyl ether, Diethylene glycol phenyl ether mixture	EDX	40	D	#		A	No	N/A
Ethylene-Propylene copolymer (in liquid mixtures)	058	30	D	E		A	No	N/A
Ethyl-3-ethoxypropionate	EEP	34	D	E		A	No	N/A
Ethyl hexyl phthalate	EHE	34	D	E		A	No	N/A
Ethyl propionate	EPR	34	D	C		A	No	N/A
Ethyl tert-butyl ether	EBE	41	D	#		A	No	N/A
Ethyl toluene	ETE	32	D	E		A	No	N/A
Fatty acid (saturated, C13+)	FAD	34	D	#		A	No	N/A
Formamide	FAM	10	D	E		A	No	N/A
Furfuryl alcohol	FAL	20 ²	D	E		A	No	N/A
Gas oil: Cracked	GOC	33	D	E		A	No	N/A
Gasoline blending stocks: Alkylates	GAK	33	D	A/C		A	No	N/A
Gasoline blending stocks: Reformates	GRF	33	D	A/C		A	No	N/A
Gasolines: Automotive (containing not over 4.23 grams lead per gallon)	GAT	33	D	C		A	No	N/A
Gasolines: Aviation (containing not over 4.86 grams of lead per gallon)	GAV	33	D	C		A	No	N/A
Gasolines: Casinghead (natural)	GCS	33	D	A/C		A	No	N/A
Gasolines: Polymer	GPL	33	D	A/C		A	No	N/A
Gasolines: Straight run	GSR	33	D	A/C		A	No	N/A
Glycerine	GCR	20 ²	D	E		A	No	N/A
Glycerine (83%), Dioxanedimethanol (17%) mixture	GDM	20	D	E		A	No	N/A
Glycerol polyalkoxylate	061	34	D	E		A	No	N/A
Glyceryl triacetate	004	34	D	E		A	No	N/A

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Glycidyl ester of Tridecyl acetic acid	GLT	34	D	E		A	No	N/A
Glyoxal solution (40% or less)	GOS	19	D	NF		A	No	N/A
Heptane (all isomers)	HMX	31	D	C		A	No	N/A
Heptanoic acid	HEP	4	D	E		A	No	N/A
Heptanol (all isomers)	HTX	20	D	D/E		A	No	N/A
Heptene (all isomers)	HPX	30	D	C		A	No	N/A
Heptyl acetate	HPE	34	D	D		A	No	N/A
Hexamethylene glycol	066	40	D	{E}		A	No	N/A
Hexamethylenetetramine solutions	HTS	7	D	E		A	No	N/A
Hexane (all isomers)	HXS	31 ²	D	B/C		A	No	N/A
Hexanoic acid	HXO	4	D	E		A	No	N/A
Hexanol	HXN	20	D	D		A	No	N/A
Hexene (all isomers)	HEX	30	D	C		A	No	N/A
Hexyl acetate	HAE	34	D	D		A	No	N/A
Hexylene glycol	HXG	20	D	E		A	No	N/A
2-Hydroxy-4-(methylthio)butanoic acid	HBA	4	D	E		A	No	N/A
Isophorone	IPH	18 ²	D	E		A	No	N/A
Jet fuel: JP-4	JPF	33	D	E		A	No	N/A
Jet fuel: JP-5 (Kerosene, heavy)	JPV	33	D	D		A	No	N/A
Jet fuel: JP-8	JPE	33	D	D		A	No	N/A
Kerosene	KRS	33	D	D		A	No	N/A
Lactic acid	LTA	²	D	E		A	No	N/A
Lard	128	34	D	#		A	No	N/A
Latex (ammonia (1% or less) inhibited)	LTX	30	D	#		A	No	N/A
Latex, liquid synthetic	LLS	43	D	#		A	No	N/A
Latex, liquid synthetic: Carboxylated styrene-butadiene copolymer	069	43	D	#		A	No	N/A
Latex, liquid synthetic: Styrene-butadiene rubber	068	43	D	#		A	No	N/A

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Long chain alkaryl polyether (C11-C20)	LCP	41	D	E		A	No	N/A
Long chain alkaryl sulfonic acid (C16-C60)	LCS	²	D	E		A	No	N/A
Long chain alkylphenate/Phenol sulfide	237	21	D	#		A	No	N/A
Magnesium long chain alkaryl sulfonate (C11-C50)	MAS	34	D	E		A	No	N/A
Magnesium long chain alkyl salicylate (C11+)	MLS	34	D	E		A	No	N/A
Magnesium long chain alkyl phenate sulfide (C8-C20)	MPS	34	D	E		A	No	N/A
Magnesium sulfonate	MSE		D			A	No	N/A
2-Mercaptobenzothiazol (in liquid mixtures)	MBT		D	E		A	No	N/A
3-Methoxy-1-butanol	072	20	D	{E}		A	No	N/A
3-Methoxybutyl acetate	MOA	34	D	D/E		A	No	N/A
1-Methoxy-2-propyl acetate	MPO	34	D	D		A	No	N/A
Methyl acetate	MTT	34	D	D		A	No	N/A
Methyl acetoacetate	MAE	34	D	E		A	No	N/A
Methyl alcohol	MAL	20 ²	D	C		A	No	N/A
Methyl amyl acetate	MAC	34	D	D		A	No	N/A
Methyl amyl alcohol	MAA	20	D	D		A	No	N/A
Methyl amyl ketone	MAK	18	D	D		A	No	N/A
Methyl butenol	MBL	20	D	#		A	No	N/A
Methyl butyl ketone	MBK	18	D	C		A	No	N/A
Methyl butynol	MBY	20	D			A	No	N/A
Methyl butyrate	MBU	34	D	C		A	No	N/A
Methyl ethyl ketone	MEK	18 ²	D	C		A	No	N/A
Methyl heptyl ketone	MHK	18	D	D		A	No	N/A
Methyl isobutyl ketone	MIK	18 ²	D	C		A	No	N/A
3-Methyl-3-methoxybutanol	073	20	D	E		A	No	N/A
3-Methyl-3-methoxybutyl acetate	175	34	D	#		A	No	N/A
Methyl naphthalene (molten)	MNA	32	D	E		A	No	N/A

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Methyl propyl ketone	MKE	18	D	C		A	No	N/A
N-Methyl-2-pyrrolidone	MPY	9 ²	D	E		A	No	N/A
Methyl tert-butyl ether	MBE	41 ²	D	C		A	No	N/A
Metolachlor	MCO	34	D	E		A	No	N/A
Mineral spirits	MNS	33	D	D		A	No	N/A
Myrcene	MRE	30	D	D		A	No	N/A
Naphtha: Aromatic (having less than 10% Benzene)	075	33	D	#		A	No	N/A
Naphtha: Heavy	077	33	D	#		A	No	N/A
Naphthalene sulfonic acid-formaldehyde copolymer, sodium salt solution	NFS	0	D	#		A	No	N/A
Naphtha: Paraffinic	078	33	D	#		A	No	N/A
Naphtha: Petroleum	PTN	33	D	#		A	No	N/A
Naphtha: Solvent	NSV	33	D	D		A	No	N/A
Naphtha: Stoddard solvent	NSS	33	D	D		A	No	N/A
Naphtha: Varnish makers and painters (75%)	NVM	33	D	C		A	No	N/A
Naphthenic acid	NTI	4	D	E		A	No	N/A
Nonane (all isomers)	NAX	31	D	D		A	No	N/A
Nonanoic acid (all isomers)	NNA	4	D	D		A	No	N/A
iso-Nonanoic acid	NAI		D			A	No	N/A
Nonanoic, Tridecanoic acid mixture	NAT	4	D	E		A	No	N/A
Nonene (all isomers)	NON	30	D	D		A	No	N/A
Nonyl acetate	NAE	34	D	E		A	No	N/A
Nonyl alcohol (all isomers)	NNS	20 ²	D	E		A	No	N/A
Nonyl methacrylate monomer	NMA	14	D	#		A	No	N/A
Nonyl phenol	NNP	21	D	E		A	No	N/A
Nonyl phenol poly(4-12)ethoxylates	NPE	40	D	E		A	No	N/A
Noxious liquid, N.F. (1) n.o.s. ("trade name" contains "principal components") ST 1, Cat A	NLH	0	D	#		A	No	N/A

USCG Marine Safety Center
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Vessel Name: CHEM 218

Shipyard: Jeffboat

Official #: D512873

Hull #: 2052

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Cargo Identification						Conditions of Carriage			
Name	Chem Code	Compat Group No	Sub Chapter	Grade	Hull Type	Tank Group	Vapor Recovery App'd (Y or N)	VCS Category	Special Requirements in 46 CFR Part 151 General and Mat'ls of Construction
Noxious liquid, F., (2) n.o.s. ("trade name" contains "principal components") ST 1, Cat A	NLI	0	D	#		A	No	N/A	
Noxious liquid, N.F., (3) n.o.s. ("trade name" contains "principal components") ST 2, Cat A	NLJ	0	D	#		A	No	N/A	
Noxious liquid, F., (4) n.o.s. ("trade name" contains "principal components") ST 2, Cat A	NLK	0	D	#		A	No	N/A	
Noxious liquid, N.F., (5) n.o.s. ("trade name" contains "principal components") ST 2, Cat B	NLL	0	D	#		A	No	N/A	
Noxious liquid, N.F., (6) n.o.s. ("trade name" contains "principal components") ST 2, Cat B, mp. equal to or greater than 15 deg. C	NLM	0	D	#		A	No	N/A	
Noxious liquid, F., (7) n.o.s. ("trade name" contains "principal components") ST 2, Cat B	NLN	0	D	#		A	No	N/A	
Noxious liquid, F., (8) n.o.s. ("trade name" contains "principal components") ST 2, Cat B, mp. equal to or greater than 15 deg. C	NLO	0	D	#		A	No	N/A	
Noxious liquid, N.F., (9) n.o.s. ("trade name" contains "principal components") ST 3, Cat A	NLP	0	D	#		A	No	N/A	
Noxious liquid, F., (10) n.o.s. ("trade name" contains "principal components") ST 3, Cat A	NLQ	0	D	D		A	No	N/A	
Noxious liquid, N.F., (11) n.o.s. ("trade name" contains "principal components") ST 3, Cat B	NLR	0	D	#		A	No	N/A	
Noxious liquid, N.F., (12) n.o.s. ("trade name" contains "principal components") ST 3, Cat B, mp. equal to or greater than 15 degC	NLS	0	D	#		A	No	N/A	
Noxious liquid, F., (13) n.o.s. ("trade name" contains "principal components") ST 3, Cat B	NLT	0	D	D		A	No	N/A	
Noxious liquid, F., (14) n.o.s. ("trade name" contains "principal components") ST 3, Cat B, mp. equal to or greater than 15 deg. C	NLU	0	D	D		A	No	N/A	
Noxious liquid, N.F., (15) n.o.s. ("trade name" contains "principal components") ST 3, Cat C	NLV	0	D	#		A	No	N/A	
Noxious liquid, F., (16) n.o.s. ("trade name" contains "principal components") ST 3, Cat C	NLW	0	D	D		A	No	N/A	
Noxious liquid, n.o.s. (17) ("trade name," contains "principal components"), Category D (if flammable or combustible)	NLA	0	D	#		A	No	N/A	

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Non-noxious liquid, n.o.s. (18) ("trade name," contains "principal components"), Appendix III (if flammable or combustible)	NLX	0	D	#		A	No	N/A
Octadecenoamide solution (Oleamide)	ODD	10	D	E		A	No	N/A
Octane (all isomers)	OAX	31	D	C		A	No	N/A
Octanoic acid (all isomers)	OAY	4	D	E		A	No	N/A
Octanol (all isomers)	OCX	20 ²	D	E		A	No	N/A
Octene (all isomers)	OTX	30	D	C		A	No	N/A
Octyl acetate	OAE	34	D	E		A	No	N/A
Octyl aldehydes	OAL	19	D	D		A	No	N/A
Octyl decyl adipate	ODA	34	D	#		A	No	N/A
Oil, edible: Babassu	OBB		D			A	No	N/A
Oil, edible: Beechnut	OBN	34	D	#		A	No	N/A
Oil, edible: Castor	OCA	34	D	E		A	No	N/A
Oil, edible: Cocoa butter	OCB	34	D	#		A	No	N/A
Oil, edible: Coconut	OCC	34	D	E		A	No	N/A
Oil, edible: Cod liver	OCL	34	D	{E}		A	No	N/A
Oil, edible: Corn	OCO	34	D	E		A	No	N/A
Oil, edible: Cottonseed	OCS	34	D	E		A	No	N/A
Oil, edible: Fish, n.o.s.	OFS	34	D	E		A	No	N/A
Oil, edible: Groundnut	OGN	34	D	E		A	No	N/A
Oil, edible: Hazelnut	OHN	34	D	#		A	No	N/A
Oil, edible: Lard	OLD	34	D	E		A	No	N/A
Oil, edible: Nutmeg butter	ONB	34	D	#		A	No	N/A
Oil, edible: Olive	OOL	34	D	E		A	No	N/A
Oil, edible: Palm	OPM	34	D	E		A	No	N/A
Oil, edible: Palm kernel	OPO	34	D	{E}		A	No	N/A
Oil, edible: Peanut	OPN	34	D	E		A	No	N/A

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Oil, edible: Poppy	OPY	34	D	{E}		A	No	N/A
Oil, edible: Raisin seed	ORA	34	D	#		A	No	N/A
Oil, edible: Rapeseed	ORP	34	D	{E}		A	No	N/A
Oil, edible: Rice bran	ORB	34	D	#		A	No	N/A
Oil, edible: Safflower	OSF	34	D	#		A	No	N/A
Oil, edible: Salad	OSL	34	D	#		A	No	N/A
Oil, edible: Sesame	OSS	34	D	{E}		A	No	N/A
Oil, edible: Soya bean	OSB	34	D	E		A	No	N/A
Oil, edible: Sunflower seed	OSN	34	D	E		A	No	N/A
Oil, edible: Tucum	OTC	34	D	E		A	No	N/A
Oil, edible: Vegetable, n.o.s.	OVG	34	D	E		A	No	N/A
Oil, edible: Walnut	OWN	34	D	#		A	No	N/A
Oil, fuel: No. 1 (Kerosene)	OON	33	D	D/E		A	No	N/A
Oil, fuel: No. 1-D	OOD	33	D	D		A	No	N/A
Oil, fuel: No. 2	OTW	33	D	D/E		A	No	N/A
Oil, fuel: No. 2-D	OTD	33	D	D		A	No	N/A
Oil, fuel: No. 4	OFR	33	D	D/E		A	No	N/A
Oil, fuel: No. 5	OFV	33	D	D/E		A	No	N/A
Oil, fuel: No. 6	OSX	33	D	E		A	No	N/A
Oil, misc: Aliphatic	195	33	D	E		A	No	N/A
Oil, misc: Animal, n.o.s.	OMA	34	D	E		A	No	N/A
Oil, misc: Aromatic	010	33	D	E		A	No	N/A
Oil, misc: Clarified	OCF	33	D	#		A	No	N/A
Oil, misc: Coal	011	33	D	{D/E}		A	No	N/A
Oil, misc: Coconut, fatty acid methyl ester	OCM	34	D	E		A	No	N/A
Oil, misc: Cottonseed, fatty acid, see Cottonseed oil, fatty acid	213		D			A	No	N/A
Oil, misc: Crude	OIL	33	D	C/D		A	No	N/A

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Oil, misc: Diesel	ODS	33	D	D/E		A	No	N/A
Oil, misc: Gas, high pour	017	33	D	E		A	No	N/A
Oil, misc: Gas, low pour	012	33	D	#		A	No	N/A
Oil, misc: Gas, low sulfur	013	33	D	#		A	No	N/A
Oil, misc: Heartcut distillate	090	33	D	D		A	No	N/A
Oil, misc: Lanolin	OLL	34	D	E		A	No	N/A
Oil, misc: Linseed	OLS	33	D	E		A	No	N/A
Oil, misc: Lubricating	OLB	33	D	E		A	No	N/A
Oil, misc: Mineral	OMN	33	D	E		A	No	N/A
Oil, misc: Mineral seal	OMS	33	D	E		A	No	N/A
Oil, misc: Motor	OMT	33	D	E		A	No	N/A
Oil, misc: Neatsfoot	ONF	33	D	E		A	No	N/A
Oil, misc: Oiticica	OOI	34	D	#		A	No	N/A
Oil, misc: Palm oil, fatty acid methyl ester	OFM		D			A	No	N/A
Oil, misc: Penetrating	OPT	33	D	E		A	No	N/A
Oil, misc: Perilla	OPR	34	D	{E}		A	No	N/A
Oil, misc: Pilchard	OPL	34	D	#		A	No	N/A
Oil, misc: Pine	OPI	33	D	D/E		A	No	N/A
Oil, misc: Residual	014	33	D	E		A	No	N/A
Oil, misc: Road	ORD	33	D	E		A	No	N/A
Oil, misc: Seal	015	34	D	#		A	No	N/A
Oil, misc: Soapstock	016		D			A	No	N/A
Oil misc, Soya bean (epoxidized)	002	34	D	E		A	No	N/A
Oil, misc: Sperm	OSP	33	D	E		A	No	N/A
Oil, misc: Spindle	OSD	33	D	E		A	No	N/A
Oil, misc: Transformer	OTF	33	D	E		A	No	N/A
Oil, misc: Tung	OTG	34	D	{E}		A	No	N/A

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Oil, misc: Turbine	OTB	33	D	E		A	No	N/A
Oil, misc: Whale	OWH	34	D	{E}		A	No	N/A
Olefin/Alkyl ester copolymer (molecular weight 2000+)	OCP	34	D	E		A	No	N/A
Olefin mixtures (C5-C7)	OFX	30	D	A/E		A	No	N/A
Olefin mixtures (C5-C15)	OFY	30	D	A/C		A	No	N/A
alpha-Olefins (C6-C18) mixtures	OAM	30	D	E		A	No	N/A
alpha-Olefins (C13-C18)	129	30	D	E		A	No	N/A
Olefins (C13+, all isomers)	094	30	D	E		A	No	N/A
Oleic acid	OLA	34	D	E		A	No	N/A
Palm kernel acid oil, methyl ester	PNF	34	D	#		A	No	N/A
Palm stearin	PMS	34	D	#		A	No	N/A
Pentaethylenehexamine	PEN	7	D	E		A	No	N/A
Pentane (all isomers)	PTY	31	D	A		A	No	N/A
Pentanoic acid	POC	4	D	E		A	No	N/A
Pentene (all isomers)	PTX	30	D	A		A	No	N/A
Petrolatum	PTL	33	D	D		A	No	N/A
1-Phenyl-1-xylyl ethane	PXE	32	D	E		A	No	N/A
Phosphosulfurized bicyclic terpene	097		D	#		A	No	N/A
alpha-Pinene	PIO	30	D	D		A	No	N/A
beta-Pinene	PIP	30	D	D		A	No	N/A
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	PAG	40	D	E		A	No	N/A
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether acetate	PAF	34	D	E		A	No	N/A
Polyalkylene glycols, Polyalkylene glycol monoalkyl ethers mixtures	PPX	40	D	D		A	No	N/A
Polyalkylene oxide polyol	PAO	20	D	E		A	No	N/A
Polyalkyl methacrylate (C1-C20)	PMT	14	D	E		A	No	N/A
Polybutadiene, hydroxyl terminated	100	20	D	E		A	No	N/A

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Polybutene	PLB	30	D	E		A	No	N/A
Polydimethylsiloxane	101	34	D	D/E		A	No	N/A
Polyether (molecular weight 2000+)	PYR	41	D	D		A	No	N/A
Polyethylene glycol	102	40	D	E		A	No	N/A
Polyethylene glycol dimethyl ether	103	40	D	#		A	No	N/A
Polyglycerine, Sodium salts solution (containing less than 3% Sodium Hydroxide)	PGT	20 ²	D	E		A	No	N/A
Polyglycerol	104	20	D	#		A	No	N/A
Poly(4+)isobutylene	105	30	D	#		A	No	N/A
Polymerized esters	106		D	E		A	No	N/A
Polyolefin amide alkeneamine borate (C28-C250)	PAB	34	D	E		A	No	N/A
Polyolefin amide alkeneamine (C28+)	POD	7	D	E		A	No	N/A
Polyolefin amide alkeneamine molybdenum oxysulfide	231	7	D	#		A	No	N/A
Polyolefin amide alkeneamine polyol	PAP	7	D	E		A	No	N/A
Polyolefin anhydride	PAR	11	D	E		A	No	N/A
Polyolefin ester (C28-C250)	POS	34	D	E		A	No	N/A
Polyolefin (molecular weight 300+)	230	30	D	E		A	No	N/A
Polyolefin phenolic amine (C28-C250)	PPH	7	D	E		A	No	N/A
Polyolefin phosphorusulfide, barium derivative (C28-C250)	PPS	34	D	E		A	No	N/A
Poly(20)oxyethylene sorbitan monooleate	PSM	34	D	E		A	No	N/A
Poly(5+)propylene	PLP		D			A	No	N/A
Polypropylene glycol	PGC	40	D	E		A	No	N/A
Polysiloxane	107	34	D	D		A	No	N/A
Potassium oleate	POE	34	D	NF		A	No	N/A
iso-Propyl acetate	IAC	34	D	C		A	No	N/A
n-Propyl acetate	PAT	34	D	C		A	No	N/A
iso-Propyl alcohol	IPA	20 ²	D	C		A	No	N/A

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n-Propyl alcohol	PAL	20 ²	D	C		A	No	N/A	
Propylbenzene (all isomers)	PBY	32	D	D		A	No	N/A	
iso-Propylcyclohexane	IPX	31	D	D		A	No	N/A	
Propylene-butylene copolymer	PBP	30	D	#		A	No	N/A	
Propylene dimer	PDR	30	D	#		A	No	N/A	
Propylene glycol	PPG	20 ²	D	E		A	No	N/A	
Propylene glycol monoalkyl ether	PGE	40	D	D		A	No	N/A	
Propylene glycol methyl ether acetate	PGN	34	D	D		A	No	N/A	
Propylene polymer (in liquid mixtures)	109		D	#		A	No	N/A	
Propylene tetramer	PTT	30	D	D		A	No	N/A	
Propylene trimer	PTR	30	D	#		A	No	N/A	
Propylene carbonate	238	34	D	E		A	No	N/A	
Rosin oil	ORN	33	D	E		A	No	N/A	
Sodium acetate, Glycol, Water mixture (containing 1% or less, Sodium hydroxide) (if flammable or combustible)	SAO	5	D	E		A	No	N/A	
Sodium acetate solution	SAN	34	D	#		A	No	N/A	
Sodium benzoate solution	SBN	34	D	#		A	No	N/A	
Sodium long chain alkyl salicylate (C13+)	SLS	34	D	E		A	No	N/A	
Stearyl alcohol (Octadecanol)	199	20	D	E		A	No	N/A	
Sulfohydrocarbon (C3-C88)	SFO	33	D	D		A	No	N/A	
Sulfohydrocarbon, long chain (C18+) alkylamine mixture	SFX	7	D	D		A	No	N/A	
Sulfolane	SFL	39	D	E		A	No	N/A	
Tall oil (crude and distilled)	OTL	34	D	E		A	No	N/A	
Tall oil fatty acid (resin acids less than 20%)	TOF	34 ²	D	E		A	No	N/A	
Tallow	TLO	34 ²	D	D		A	No	N/A	
Tallow fatty acid	TFD	34 ²	D	E		A	No	N/A	
Tallow alkyl nitrile	TAN	37	D	E		A	No	N/A	

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Tetradecanol	TTN		D			A	No	N/A
Tetradecylbenzene	TDB	32	D	{E}		A	No	N/A
Tetraethylene glycol	TTG	40	D	E		A	No	N/A
Tetrahydronaphthalene	THN	32	D	E		A	No	N/A
Toluene	TOL	32	D	C		A	No	N/A
Tributyl phosphate	TBP	34	D	E		A	No	N/A
Tricresyl phosphate (less than 1% of the ortho isomer)	TCP	34	D	E		A	No	N/A
Tridecanoic acid	TDO	34	D	E		A	No	N/A
Tridecylbenzene	TRB	32	D	E		A	No	N/A
Triethylbenzene	TEB	32	D	E		A	No	N/A
Triethylene glycol	TEG	40	D	E		A	No	N/A
Triethylene glycol butyl ether mixture	117	40	D	E		A	No	N/A
Triethylene glycol di-(2-ethylbutyrate)	TGD	34	D	E		A	No	N/A
Triethylene glycol ether mixture	118	40	D	E		A	No	N/A
Triethyl phosphate	TPS	34	D	E		A	No	N/A
Triisooctyl trimellitate	119	34	D	E		A	No	N/A
Triisopropanolamine	TIP	8	D	{E}		A	No	N/A
Triisopropylated phenyl phosphates	TPL	34	D	E		A	No	N/A
Trimethylbenzene (all isomers)	TRE	32	D	{D}		A	No	N/A
Trimethylol propane polyethoxylate	TPR	20	D	E		A	No	N/A
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	TMQ	34	D	E		A	No	N/A
2,2,4-Trimethyl-3-pentanol-1-isobutyrate	219	34	D	E		A	No	N/A
Tripropylene glycol	TGC	40	D	E		A	No	N/A
Trixylenyl phosphate	TRP	34	D	E		A	No	N/A
Turpentine	TPT	30	D	D		A	No	N/A
1-Undecene	UDC	30	D	D/E		A	No	N/A
1-Undecyl alcohol	UND	20	D	E		A	No	N/A

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Undecylbenzene	UDB	32	D	E		A	No	N/A	
Wax: Candelilla	WCD	34	D	#		A	No	N/A	
Wax: Carnauba	WCA	34	D	E		A	No	N/A	
Wax: Paraffin	WPF	34	D	E		A	No	N/A	
White spirit (low (15-20%) aromatic)	WSL	33	D	D		A	No	N/A	
Xylene, Ethylbenzene Mixture	XEB		D	D		A	No	N/A	
Xylenes (ortho-, meta-, para-)	XLX	32	D	D		A	No	N/A	
Zinc alkaryl dithiophosphate (C7-C16)	ZAD	34	D	E		A	No	N/A	
Zinc alkyl dithiophosphate (C3-C14)	ZAP	34	D	E		A	No	N/A	
Ammonium bisulfite solution (70% or less)	ABX	43 ²	O	NA	III	A	No	N/A	.50-73, .56-1(a), (b), (c)
Carbon tetrachloride	CBT	36	O	NA	III	A	No	N/A	No
Caustic potash solution	CPS	5 ²	O	NA	III	A	No	N/A	.50-73, .55-1(j)
Caustic soda solution	CSS	5 ²	O	NA	III	A	No	N/A	.50-73, .55-1(j)
Chloroform	CRF	36	O	E	III	A	No	N/A	No
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	DDE	43	O	NA	III	A	No	N/A	.56-1(a), (b), (c), (g)
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	DTI	43 ²	O	NA	III	A	No	N/A	.56-1(a), (b), (c), (g)
Glutaraldehyde solution (50% or less)	GTA	19	O	NA	III	A	No	N/A	No
Kraft pulping liquors (free alkali content 3% or more)(including: Black, Green, or White liquor)	KPL	5	O	NA	III	A	No	N/A	.50-73, .56-1(a), (c), (g)
Sodium aluminate solution	SAU	5	O	NA	III	A	No	N/A	.50-73, .56-1(a), (b), (c)
Sodium chlorate solution (50% or less)	SDD	0 ^{1,2}	O	NA	III	A	No	N/A	.50-73
Sodium sulfide, hydrosulfide solution (H2S 15 ppm or less)	SSH	0 ^{1,2}	O	NA	III	A	No	N/A	.50-73, .55-1(b)
Triphenylborane (10% or less), caustic soda solution	TPB	5	O	NA	III	A	No	N/A	.56-1(a), (b), (c)
Trisodium phosphate solution	TSP	5	O	NA	III	A	No	N/A	.50-73, .55-1(j)
Vanillin black liquor (free alkali content, 3% or more).	VBL	5	O	NA	III	A	No	N/A	.50-73, .56-1(a), (c), (g)

6. Explanation of terms & symbols used in the Table:

Carqo Identification

Name	The proper shipping name as listed in 46 CFR Table 30.25-1, 46 CFR Table 151.05, and 46 CFR Part 153 Table 2.
Chem Code	The three letter designation assigned to the cargo in the Chemical Hazards Response Information System (CHRIS) Manual.
none	Certain mixtures of cargoes may not have a CHRIS Code assigned.
Compatibility Group No.	The cargo reactive group number assigned for compatibility determinations in 46 CFR Part 150 Tables I and II. In accordance with 46 CFR 150.130, the Person-in-Charge of the barge is responsible for ensuring that the compatibility requirements of 46 CFR Part 150 are met. Cargoes must be checked for compatibility using the figures, tables, and appendices of 46 CFR 150 in conjunction with the assigned reactive group number.
Note 1	Because of the very high reactivity or unusual conditions of carriage or potential compatibility problems, this product is not assigned to a specific group in the Compatibility Chart. For additional compatibility information, contact Commandant (G-MSO-3), U.S. Coast Guard, 2100 Second Street, SW, Washington, DC 20593-0001. Telephone (202) 267-1217.
Note 2	See Appendix I to 46 CFR Part 150 - exceptions to the compatibility chart.
Subchapter	The subchapter in Title 46 Code of Federal Regulations under which the cargo has been classified.
Subchapter D	Those flammable and combustible liquids listed in 46 CFR Table 30.25-1.
Subchapter O	Those hazardous cargoes listed in 46 CFR Table 151.05 and 46 CFR Part 153 Table 2.
Note 3	Those cargoes listed in 46 CFR Part 153 Table 2 are non-regulated cargoes when carried in bulk on non-oceangoing barges.
Grade	The cargo classification assigned to each flammable or combustible liquid. Grades inside of "{ }" indicate a provisional assignment based upon literature sources which were not verified by manufacturers data. The Person-in-Charge shall verify the cargo grade based on Manufacturers data and ensure that the barge is authorized for carriage of that grade of cargo.
A, B, C	Flammable liquid cargoes, as defined in 46 CFR 30-10.22.
D, E	Combustible liquid cargoes, as defined in 46 CFR 30-10.15.
Note 4	The flammability/combustibility grade of these cargoes may vary depending upon the flashpoint and Reid vapor pressure. The Person-in-Charge shall verify the cargo grade based on Manufacturers data and ensure that the barge is authorized for carriage of that grade of cargo.
NA	Those subchapter O cargoes which are not classified as a flammable or combustible liquid.
#	No flammability/combustibility grade has been assigned yet, as the necessary flash point/vapor pressure data for such assignments are presently not available.
Hull Type	The required barge hull classification for carriage of the specified Subchapter O hazardous material cargo, see 46 CFR 151.10-1.
I	Designed to carry products which require the maximum preventive measures to preclude the uncontrolled release of the cargo. See 46 CFR 151.10-1(b)(1).
II	Designed to carry products which require significant preventive measures to preclude the uncontrolled release of cargo. See 46 CFR 151.10-1(b)(3).
III	Designed to carry products of sufficient hazard to require a moderate degree of control. See 46 CFR 151.10-1(b)(4).
NA	Not applicable to barges certificated under Subchapter D.

Conditions of Carriage

Tank Group	The vessel's tank group (as defined in Section 4) which is authorized for carriage of the named cargo.
Vapor Recovery	
Approved (Y or N)	Yes: The vessel's VCS has been reviewed and approved by the MSC to control vapors of the specified cargo. No: The vessel's VCS has been reviewed and is not approved by the MSC to control vapors of the specified cargo.
VCS Category:	The specified cargo's provisional classification for vapor control systems.
Category 1	(No additional VCS requirements above those listed for benzene, gasolines, and crude oil) The requirements that must be met are in 33 CFR 155.750, 33 CFR 156.120, 33 CFR 156.170, 46 CFR 35.35 and 46 CFR Part 39. The cargo tank venting system calculations (46 CFR 39.20-11) and the pressure drop calculations (46 CFR 39.30-1(b)) must use appropriate friction factors and vapor densities, and a vapor growth of at least 25%.
Category 2	(Polymerizes) Due to polymerization properties, vessels collecting vapors of these cargoes must have a vapor collection and venting system designed to accommodate internal visual examinations to ensure the piping system and components are functional and residue buildup has not adversely affected the pressure drop characteristics of the system. The frequency of these examinations shall be to the satisfaction of the cognizant Officer-in-Charge, Marine Inspection (OCMI). This is in addition to the requirements of Category 1. Please note that a material not normally used as a monomer (or even considered to be a monomer) can be a problem in a detonation arrester. With experience, we may be able to move some in this category to Category 1. Where regulations require a product to meet 46 CFR 151.50-70, we consider the product to be one that polymerizes. On a case by case basis, where we know or suspect that a material can polymerize over time (even when the regulations do not require inhibition), we include it in this Category. In addition, chemicals that are reactive with the moisture in air to form a solid can present similar problems. Therefore we include them under this Category.
Category 3	(Highly Toxic) Due to toxic properties, vessels collecting vapors of these cargoes cannot use a spill valve or rupture disk arrangement as the primary means to meet the overfill protection requirement of 46 CFR 39.20-9. This requirement is in addition to the requirements of Category 1. Where the regulations require a product to meet 46 CFR 151.50-5, we consider the product to be highly toxic.
Category 4	(Polymerizes and Highly Toxic) Must comply with the requirements of Categories 1, 2, and 3. This includes highly toxic chemicals that are reactive with the moisture in air to form a solid.
Category 5	(High Vapor Growth Rate) Due to the high volatility of these cargoes, the vapor control system requirements cannot be prescribed until the effects of the vapor growth rate for the particular cargo is better understood. If information is available relating to the vapor growth rate of one of these cargoes or the requester is in a position to load a vessel with one of these cargoes at a facility where the liquid loading rate and the vapor discharge rate can be accurately measured, Commandant (G-MSO-3) should be contacted at (202) 267-1217. We have decided that if the vapor pressure is below 200 mm HG at 20 C, there is no vapor growth rate problem.
Category 6	(High Vapor Growth Rate and Highly Toxic) Must comply with the requirements of Categories 1, 3, and 5.
Category 7	(High Vapor Growth Rate and Polymerizes) Must comply with requirements of Categories 1, 2, and 5. This includes High Vapor Growth Rate chemicals that are reactive with the moisture in air to form a solid.
none	The cargo has not been evaluated/classified for use in vapor control systems.

Conditions of Carriage (cont.)

Special Requirements

46 CFR 151.50 - Special Requirements

- .50-5 Toxic cargoes
- .50-5(d) Independent piping
- .50-6(a) Motor fuel antiknock compounds
- .50-10 Alkylene oxides
- .50-12 Ethylene oxide
- .50-13 Propylene oxide
- .50-20 Inorganic acids
- .50-21 Sulfuric acid
- .50-22 Hydrochloric acid
- .50-23 Phosphoric acid
- .50-30 Compressed gases
- .50-31 Chlorine
- .50-32 Ammonia, Anhydrous
- .50-34 Vinyl chloride (VCM)
- .50-35 Sulfur dioxide
- .50-36 Argon or nitrogen
- .50-40 Carbon disulfide/bisulfide
- .50-42 Ethyl ether
- .50-50 Elemental Phosphorus in water
- .50-55 Sulfur, molten
- .50-60 Benzene
- .50-70(a) Cargoes requiring inhibition
- .50-70(b) Cargoes requiring stabilization
- .50-73 Chemical protective clothing
- .50-74 Ethylene nobornene
- .50-75 Ferric chloride solution
- .50-76 Hydrochloric acid, spent (NTE 15%)
- .50-77 Hydrofluorosilicic acid (30% or less)
- .50-79 Methyl acetylene-propadiene mixture
- .50-80 Nitric acid (70% or less)

46 CFR 151.50 - Special Requirements (cont.)

- .50-81 Special op req - heat sensitive cargoes
- .50-81(a) No heating coils or coils blanked off
- .50-81(b) Not next to an elevated cargo
- .50-84 Sulfur dioxide
- .50-86 Octyl nitrates

46 CFR 151.55 - Special Material Requirements

- .55-1(b) Cu, Cu alloys, Zn, Al prohibited
- .55-1(c) Cu, Cu alloys, Zn, galv steel, Hg prohibited
- .55-1(e) Cu, Cu alloys prohibited
- .55-1(f) Cu, Cu alloys, Al, Al alloys prohibited
- .55-1(g) Al, SS, steel w/ prot coating req'd
- .55-1(h) Do not contam w/ alkaline or acidic mat'ls
- .55-1(i) $\geq 98\%$, Al or SS req.; $< 98\%$ SS, 304L/316 SS req
- .55-1(j) Zn, alloy with > 10 wt% Zn, Al prohib

46 CFR 151.56 - Prohibited Mat'ls of Construction

- .56-1(a) Al or Al alloys
- .56-1(b) Cu or Cu alloys
- .56-1(c) Zn, galv steel, alloy w/ > 10 wt% Zn
- .56-1(d) Magnesium
- .56-1(e) Lead
- .56-1(f) Silver or silver alloys
- .56-1(g) Mercury

46 CFR 151.58 - Required Materials

- .58-1(a) Al, SS, or steel w/ protective lining or coating
- .58-1(d) Solid austenitic SS
- .58-1(e) SS or w/ protective lining or coating

7. Cargo Compatibility Chart:

Reactive Groups	Cargo Groups																																																												
	1. Non-oxidizing Mineral Acids	2. Sulfuric Acid	3. Nitric Acid	4. Organic Acids	5. Caustics	6. Ammonia	7. Aliphatic Amines	8. Alkanolamines	9. Aromatic Amines	10. Amides	11. Organic Anhydrides	12. Isocyanates	13. Vinyl Acetate	14. Acrylates	15. Substituted Alkyls	16. Alkene Oxides	17. Epichlorohydrin	18. Ketones	19. Aldehydes	20. Alcohols, Glycols	21. Phenols, Cresols	22. Caprolactam solution		30. Olefins	31. Paraffins	32. Aromatic Hydrocarbons	33. Misc Hydrocarbon Mixtures	34. Esters	35. Vinyl Halides	36. Halogenated Hydrocarbons	37. Nitriles	38. Carbon Disulfide	39. Sulfurane	40. Glycol Ethers	41. Ethers	42. Nitrocompounds	43. Misc Water Solutions																								
1. Non-oxidizing Mineral Acids		X			X	X	X	X	X	X	X	X	X			X	X																																												
2. Sulfuric Acid	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X				X			X				X	X			X																					
3. Nitric Acid		X			X	X	X	X	X	X	X	X	X			X	X			X	X	X			X		X	X	X	X							X																								
4. Organic Acids		X			X	X	X	X			X	X				X	X			X	X																X																								
5. Caustics	X	X	X	X							X	X				X	X		X	X	X	X																	X																						
6. Ammonia	X	X	X	X						X	X	X	X			X	X		X																			X																							
7. Aliphatic Amines	X	X	X	X							X	X	X	X	X	X	X	X	X	X	X	X												X				X																							
8. Alkanolamines	X	X	X	X							X	X	X	X	X	X	X		X															X				X																							
9. Aromatic Amines	X	X	X								X	X						X																				X																							
10. Amides	X	X	X			X						X										X																																							
11. Organic Anhydrides	X	X	X		X	X	X	X	X																																																				
12. Isocyanates	X	X	X	X	X	X	X	X	X	X										X		X														X																									
13. Vinyl Acetate	X	X	X			X	X	X																																																					
14. Acrylates		X	X				X	X																																																					
15. Substituted Alkyls		X	X				X	X																																																					
16. Alkene Oxides	X	X	X	X	X	X	X	X																																																					
17. Epichlorohydrin	X	X	X	X	X	X	X	X																																																					
18. Ketones		X	X				X																																																						
19. Aldehydes		X	X		X	X	X	X	X																																																				
20. Alcohol, Glycols		X	X		X		X					X																																																	
21. Phenols, Cresols		X	X		X		X			X																																																			
22. Caprolactam solution		X			X		X				X																				X																														
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.		30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	